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ART. VII.—*On the Pronunciation of the Greek Language.* By John Pickering A. A. S. Art. XVI. of *Memoirs of the American Academy of Arts and Sciences.* Vol. IV.—Part I. Cambridge, Hilliard & Metcalf, 1818.

THE author of this memoir is not a mere scholar. Like others of our countrymen who have deserved well of letters, he has been obliged to prosecute his studies, “not in the soft obscurities of retirement, or under the shelter of academic bowers,” but amidst the inconveniences and distractions of public life, and the fatigues of his honourable profession. He is already well known to our readers as the author of a *\*Vocabulary of words and Phrases which have been supposed to be peculiar to the United States of America. To which is prefixed an Essay on the present state of the English Language in the United States.* And having thus done no little service to American literature, he is the first to call the attention of scholars in this country to the proper pronunciation of the Greek.

The pronunciation of this language adopted in Europe until the first part of the sixteenth century, was derived directly or indirectly from those learned Greeks, who just before, or immediately after the taking of Constantinople, (A. D. 1453) took refuge in Europe from the oppression of the Turks. Of these, Chrysoloras, Gaza, Trapezontius and several others fled to Italy, and the pronunciation derived from these and their disciples, was promulgated and taught in Germany about the year 1474, by John Reuchlin. This Reuchlinian or old pronunciation of the Greek prevailed in Germany until the time of Erasmus, who in his celebrated †*Dialogue* published first in 1528, undertook to introduce a reform. This *Dialogue* is said to have originated in a playful imposition of Henry Glareanus on the credulity of Erasmus, “quod sciret Erasmus plus satis rerum novarum studiosum, ac mire credulum.” Mr. Pickering has enlivened his memoir with this story. Erasmus did not himself adopt his own system, or teach it to his pupils; yet because it was more assimilated to the pronunciation of the languages of Europe, and was supported by the authority of great names, the ‘contagion,’

\* See the North American Review, vol. iii. p. 355.

† De recta Latini Græcique Sermonis Pronunciatione, *Dialogus.* Republished by Havercamp in his *Sylloge Scriptorum qui de Ling. Græc. vera et recta pronuncione commentarios reliquerunt*, tom. 2. Lugd. Bat. 1740.

as Mr. Pickering calls it, spread, and the pronunciation of the Modern Greeks was by degrees neglected. This was effected the more easily, as the Ancient Greek was not studied for purposes of conversation.

It is the object of the memoir before us, to consider how nearly the pronunciation of the modern Greeks approximates to that of their ancestors.

‘It may, perhaps, be thought that we cannot at this day satisfactorily ascertain the ancient pronunciation of Greek. It must undoubtedly be admitted, that we cannot arrive at all the delicate distinctions of accent, (as it is commonly called,) which few but *natives* ever acquire, even with the aid of a living instructor ;—distinctions which change from one age to another in all nations. Such alterations have probably taken place in the successive periods of the *Greek* language. But, that the *general pronunciation* of this language has undergone any essential change in the course of eighteen centuries, I cannot believe to be the fact. On the contrary, I think it can be very satisfactorily shown, that little alteration has taken place even in that length of time. By adopting, therefore, the pronunciation of the present day, we can, as mathematicians express it, approximate very nearly to that of ancient times.’ pp. 229, 230.

And in the genuine spirit of a scholar Mr. Pickering observes,

‘Here, perhaps, the old and often recurring question may be asked (not however by scholars,) of *what use would it be, even if practicable, to ascertain the true pronunciation of the Greek Language?* With every lover of learning it would be a sufficient answer to say, that the fact itself, like any other thus ascertained, would gratify a liberal curiosity, by settling a long contested point in the literature of one of the most interesting nations of antiquity. It may be added, however, that it would afford us the substantial advantage of putting within our power the means of tracing the etymologies of modern languages through the *oral* as well as *written* part of this admirable tongue, the influence of which has been felt among so many nations. It would also give a new interest to the study of Greek ; for every man, who has attempted to acquire a language, feels with how much greater satisfaction he pursues the study of it, when he knows how to *pronounce* it, than when he is obliged, like the unfortunate deaf and dumb, to study merely its *written characters*. In truth, with all nations, except the singular people of China, the whole power of a language is believed to be in the *oral* part of it, or the pro-

nunciation ;\* and a scholar hardly feels satisfied, that he knows a language, till he has learned its pronunciation. But to all speculations on this point it is an answer, the force of which every scholar will feel, that could we but bring before our eyes the orator of Greece, and hear with our own ears the accents of that tongue, which swayed the destinies of his country, we should not stop to inquire, of what use it would be to know the pronunciation of the language which fell from it.' pp. 228, 229.

Our readers will gladly excuse us from "beating," as Dr. Johnson expresses it, "the track of the alphabet with sluggish resolution." We can do no adequate justice to the erudition and patient research, which characterize this memoir throughout, by any extracts which our limits will allow. We shall advert to the principles on which the whole argument depends,—in others words, to the various methods of proof by which the *approximation* of the Romaic pronunciation to that of the Ancient Greeks is thought to be maintained, and quote as much as we may to show the manner in which the investigation is pursued.

It is a remarkable circumstance in the history of the Greek Language, that, as Mr. Pickering observes, 'it cannot with strict propriety be ranked among those which are called *dead*.' The Greeks have remained an unmixed people in a peculiar manner, and a singular uniformity in their written language, may be traced for more than twenty seven centuries. It is *inferred* from this circumstance that the pronunciation has also been essentially preserved. But this inference will be modified by a reference to some considerations which we shall cursorily mention. In the first place, it would seem

\* "The Chinese (says Mr. Du Ponceau) consider the mode of conveying ideas to the mind through the eye, by means of written signs, as far superior to spoken words which communicate perceptions through the ear. 'The people of *Fan*, say they, (meaning the Europeans,) prefer sounds, and what they obtain enters by the ear; the Chinese prefer beautiful characters, and what they obtain enters by the eye.' 'It is, indeed, says Remusat, impossible to express in any language, the energy of those picturesque characters, which exhibit to the eye, instead of barren and arbitrary sounds, the objects themselves, figured and represented by their most characteristic traits, so that it would require several phrases to express the signification of a single word,' " See the learned and philosophical Memoir on English Phonology, published in the Transactions of the Philosophical Society at Philadelphia, by Mr. Du Ponceau; who cites, for the first of these quotations, *Morrison's Chinese Dict. Introd.* p. vii.; and for the other, Remusat, p. 56."

unwarrantable to ascribe to sounds that identity which belongs to their representatives. Letters and words have a definite form and may be transmitted entire, but sounds die in the utterance; and those who have observed the elements of their own pronunciation changed even since their childhood, will not be the first to believe that the spoken language of the Greeks could have escaped corruption.

The process by which sounds alter while their representatives remain unchanged, is so well described by Mr. Du Ponceau, in his memoir on English Phonology to which Mr. Pickering has paid a just tribute in calling it ‘learned and philosophical,’ that we quote the following passage. “Oral language is subject to change, and the pronunciation of words does not constantly remain the same. The variations which take place are slow and gradual, at first confined to a particular class of men or district of country, and a long time elapses before they are universally established. In the meanwhile the nation is divided in opinion as well as in practice, some taking the new, others adhering to the old pronunciation; but the combination of signs, by which a particular word is represented in writing, remains the same, and by the time that the new mode of pronouncing that word has finally prevailed, the eye, accustomed to recognize it under every fluctuation of its sounds, finds no necessity for an alteration in the manner of its spelling; for there is no analogy in nature between written signs and words spoken, any more than between words and ideas. Although alphabets may have been originally intended to represent mere sounds, the various combinations of their characters form at least a written language, which like that of the Chinese, conveys ideas directly to the mind, without passing through the mental ear, any more than words spoken pass through the mental eye.” *Trans. Am. Phil. Society, Vol. I. New Series, 1818. No. XVII. English Phonology. By Peter S. Du Ponceau. p. 233.*

But there are some peculiar circumstances in the history of the Greeks which, it would seem, must have affected their spoken language. When Constantine founded the city which derived its name from him, and from which, in the 15th century, that pronunciation was derived which is proposed for adoption at the present day, he intended to make it a New Rome; and this was the name which he gave it at the yearly pageant which he caused to be exhibited. He induced by encourage-

ment of every kind, many of the most distinguished families of Italy, and a multitude of inferior rank, to leave that country, and establish themselves in the New City. "We may suppose," says Harris\*, "therefore, that Latin was for a long time the *prevailing language* of the place, till in the course of years it was supplanted by Greek, the *common language* of the neighbourhood and the *fashionable acquired language* of every polite Roman." We know, further, that Justinian published in this city his Roman Law in Latin at the beginning of the sixth century, though it should be remarked that it was found necessary to publish it in Greek also; and here, too, the celebrated Priscian, about the same period taught the principles of Latin Grammar. In the tenth and eleventh centuries, we find, in the ceremonial of the Byzantine Court, certain formularies preserved, by which it is plain that the Latin was still preserved. They consist of Latin words in Greek characters, a specimen of which is preserved in the work of Harris to which we have already referred, and from which we have derived the facts above stated.

The vicissitudes in the political condition and relations of the Byzantine Greeks have been in the least degree propitious to the cultivation or preservation of letters or language. The thousand years preceding the taking of Constantinople was a period of the grossest rudeness and ignorance throughout the world. Monkery, the child of superstition, and chivalry the fanaticism of honour, prevailed in the forgetfulness of the arts, and in the sleep of literature. External wars, and internal dissensions, civil and religious, constantly oppressed the Greeks. The Persians and Arabians were their continual foes; and their city was taken and pillaged by the Latins, or armies of Western Europe, in the beginning of the thirteenth century, and the Turks never ceased to assail it until they effected its subversion in the middle of the fifteenth century. From that time to the present, they have ruled without a competitor, and it has been uniformly their policy to prevent the cultivation of letters and arts by the subjugated Greeks. Still there is proof, that during all these calamities the torch of learning was handed from one to another, quite down to the restoration of letters, but through long spaces, and with a glimmering light; by

\* Philological Inquiries B. 297.

fits indeed its flame was pure and bright, but generally flickering and dying for want of aliment.

Before entering then more particularly on the subject, we should not, we think, be authorized to expect that a people, situated as the Greeks have been, could have preserved their pronunciation without great corruption. There is reason to believe that the Latin was the polite language of their metropolis for a considerable time,—they were, in every age, harassed by calamities of every kind—frequent invasions, civil dissensions, hot religious controversy;—they were vanquished twice, and each time by a people speaking a different language; and their last conquerors, who yet hold them in subjection, have left nothing untried to crush their national feeling, break their spirits and check the progress of all liberal pursuits. We find, accordingly, on examining their language, those corruptions which are the natural effect of their political condition.

Brerewood, in his “Survey of the Languages of the world,” published in 1611, and whom we quote principally on account of the period in which he wrote, says, “it (the modern Greek) is also much impaired, as touching pureness of speech, being overgrown with barbarousness,” and quotes Bellorius to this effect. He afterwards says, that the “Sclavonian, Arabian, and Turkish are gotten into their language. But the greatest cause of corruption hath been bred at home, and proceeded from no other cause, than their own negligence and affectation.” He then classes the corruptions under four heads, viz. Mutilation, Compaction, Confusion of sound, and Translation of accent; and observes, that from all these causes, “the difference is so great between the present and ancient Greek, that the Liturgy, which is yet read in the pure Greek tongue, namely, that of St. Basil, is not understood.” Henninius,\* in his very learned work on Greek accents, has this remark; “Magnis namque passibus ad barbariem tendebat Græcia, ita ut multa, ἑζακοίς, peregrina vocabula fœdarent elegantissimam linguam. § 25.” He then states more particularly the sources whence this barbarism was derived, which he reduces to six.† I. The Hel-

\* ΕΛΛΗΝΙΣΜΟΣ ΟΡΘΩΔΟΣ. Seu Græcam Linguam non esse Pronunciandam secundum Accentus; Dissertatio Paradoxa. 1724.

† As this work is very rarely to be met with in this country, we quote the original.

lenistic Jews, from whom the modern Greeks learned the vicious pronunciation of β. η. υ. II. The Greek Jurists, who “on set purpose” debased the elegance of the Greek by an

I. A Judæis Hellenistis habere videntur hodierni Græci vitiosam istam τῶν β. η. υ. pronunciationem. Pronunciant enim *Elefsini* ἀντὶ τοῦ Ἑλευσῖνι : *fita* pro βῆτα : *ef*, pro εὔ. Hellenistæ namque Judaismum secuti τὸ δ non *dagessatum* ut *f.* pronunciant : et secundum τῷς LXXXII. ἀντὶ τοῦ υ ἢ Judaicum legebant : loco τοῦ η *chirek longum*.

II. *Jurisconsulti Græci*, qui data opera elegantiam Græcismi immixto Latinismo sædarunt. Vide Basilica, Novellas, *Glossaria* Labbæi, Jcc. Græcos Theophilum, Harmenopulum &c. hi magnum momentum contulerunt ad exauctorandas diphthongos αι et ει, quas more Latino in Latinis Græce exaratis pronunciassse videntur ut *πράτωρ* *prætor*, etss.

III. *Arabes magno numero per Græciam Dispersi*. Ab iis didicere Græculi τὸ δι in *d* blæsum [*dhsal Arabicum*] vertere, quod *Arabum* est : hinc Ζάωλος pro Διάωλος in Græcis reperitur, quod miror viros etiam doctissimos fugisse. Ab iisdem habent, quod recentiores τὸ γι vertunt in ζ. v. g. pro Ἀγιαμί dicunt Ἀζαμί. sic et eisdem debent duras illas et peregrinas elementorum τζ. etss. juncturas, hodiernæ Græciæ et labenti olim perquam frequentes, et in nominibus propriis usitatissimas.

IV. *Aula Imperatoria*, quæ quotidie nova nomina cudendo plane *Græcismum* pessumdedit, cui rei vel unus *Codinus* fidem fecerit. In *lib. de Official. Palat. CPtani* in quo reperies σακελλάριον, πρωτονοτάριον, πριμμικηρίους, δούκας, δομεστίκους, κοντοστάυλους, ραίφεν-δάριον, τζαγγαρίους, δρῆγγαρίους, πρωτοβεστιάριον, κλαπατὸν, et nescio quot meræ Barbariæ infelices tribulos.

V. *Clerus Posteriorum Seculorum*, et illi, qui se ἱερούς, seu *sacros*, appellare solent, qui non minus sæviebant *fratesco* (1) et claustrali Græcismo in elegantiam Linguae ; quam crudelitate et invidia in optimos Auctores (2).

(1) Vide modo συνῳδικὰ, Νομοκάνονα, Ἀρχιερατικὰ, Εὐχολόγια, et Μηνολόγια Græcorum, et vera me dixisse deprehendes. (2) Vide notabile quid ex Halcyonio, ap. Colomes. *Cim. Læter. Cap. xv.*

VI. *Populi Peregrini, ad quos Lingua Græca derivabatur*, qui Linguam et Pronunciationem varie corruptam corrumpere ulterius. Sic Latini sequiores maximam partem τὸ AI ut *e laxum*, τὸ OI et EI, ut *i longum* pronunciabant, quod nimirum Latinismus eas diphthongos per æ et i longum redderet ; quod Græculi adulatorēs imitati harum diphthongorum genuinum sonum depravarunt,



intermixture of Latin. To these he ascribes the spoiling the *αι* and *ει* of their diphthongal power. III. The Arabians dispersed in great numbers over Greece. From these was learned the obscure sound of *d*, “[*dhsul Arabicum*]” also to change *γ* into *ζ* and to make that unhappy combination of letters *τζ* used so much in proper names. IV. Imperial Court, which daily coined new terms. V. Clergy of the later ages, who treated the Greek language with no less indignity than they treated the Greek authors. VI. Foreigners, who having borrowed the Greek, debased it, and were afterward imitated by the Greeks themselves. Schmidt,\* the author of the latest modern Greek Grammar printed on the continent of Europe, compares the condition of this people, to that of Europe during the ages of chivalry. Lord Byron’s account of them is familiar to most readers. But it is not necessary to multiply authorities on a matter of fact so well known.

Now, though we admit the pronunciation of the Modern Greek to have remained as little changed as the written language, which, as we have attempted to show, is a mere assumption, still we must allow that it has widely departed from the pronunciation of the ancient Greeks.

We know that general remarks of this kind are sometimes considered irrelative and inconclusive. But we have thought them necessary to qualify the inference of identity of sound from identity of written character; that the circumstance of the Greeks remaining an *unmixed people* may not have an efficacy which does not belong to it, and as having a direct bearing on the question of *usage*.

We proceed to a more particular examination of those facts and principles, on which the argument for the approximation of the spoken Romaic to the spoken Greek of ancient times depends.—We say *approximation*, for this is all that is contended for; a perfect resemblance is not asserted by the most earnest advocates for the adoption of the modern pronunciation.

quæ depravatio hodieque apud multos Germanos, præcipue Helvetios, Suevos et Saxonas, nonnullosque populos ad septemtriones frequentatur, illi enim maximam partem omnia Græculorum recentiorum vitia solenniter in pronunciatione receperunt, et deteriora sequuntur, quamvis meliora videant. pp. 19—21.

\* Neugriechische Sprachlehre von J. A. E. Schmidt verpflichtetem Dolmetscher der neugriech. Sprache. Vorrede, iii. Leip. 1808.

Among the most important methods of identifying the sound of letters in ancient and modern times, are the descriptions of the manner in which they are formed, by the Grammarians and Rhetoricians of antiquity ; particularly those of Dionysius of Halicarnassus. These, it must be admitted, are sufficiently minute, and doubtless as accurate as it is possible to make them. But all *descriptions of sounds* must necessarily be imperfect, and all descriptions of articulate sounds altogether futile. And there are two very sufficient reasons for this. First, because the motions of the minute membranes of the throat, and those of the tongue, lips, and nose, which are essential to the production of an articulate sound, are exceedingly delicate, and can never be described, nor indeed ever known. And secondly, because we know very little of the human voice, as used in spoken sounds, and are not able to say in what articulation, strictly considered, consists. “ We can account for musical sounds, but philosophy has not yet been able to explain the formation of a single articulated letter.” The voice, considered as a musical instrument, is strictly analogous to all other musical instruments, but “ no instrument, formed upon a philosophical acquaintance with the subject, has ever been made, that will utter a single letter.\* We know of only two essential distinctions of sound, tone and intensity ;—the one depending upon the frequency of the vibrations, the other upon their strength. But what is that, which distinguishes the vowels from each other, when uttered upon the same key, and with the same degree of loudness ? What is that, which enables us to distinguish a thousand voices, and a thousand sounds of the same voice, where, it should seem, neither tone nor intensity are concerned ?” A practical proof of the futility of all attempts to describe articulated sounds, may be found in the failure of attempts of this nature in our modern grammars. It is matter of common remark, that we cannot learn to pronounce any modern language but from living lips. The very description of the process in some grammars fills the learner with dismay, and in other cases, as for example, the guttural *ch* of the German and other modern languages (to which the Greek *χ* in Mr. Pickering’s table is likened) is commonly passed

\* We are aware that Kratzenstein and others have made instruments which imitate tolerably the sound of most of the vowels ; but they have been made by unwearied and repeated trials, without the assistance of any theory on the subject.

over as having nothing in our language to which it can be compared. The same remark applies to the German diphthongs, ö when long, and ü ; to the French u, eu, and their nasal terminations ; and to the English *th* to all foreigners. And yet with regard to the modern languages, we have the great advantage of some *sounds* which may serve, however imperfectly, as the ground of comparison. May we not infer then that any description of the movement of the organs employed in producing an articulate sound, which is all that an ancient can do for us, must be necessarily imperfect ? And admitting that we could ascertain the pronunciation of single letters, we have done little towards ascertaining their power when combined. We know the difficulty of learning to pronounce a language which is spoken to us habitually ; how then can we learn the sounds of that which is not spoken to us at all ? And on the supposition that we could fix the pronunciation of single words, we do nothing towards establishing the tone and time, the rhythm and melody of the sentences ; this we believe can never be done by any description in cold, dead words.

Another method of approximating to the pronunciation of antiquity, is by some comparisons of spoken sounds, which the ancients have transmitted, to those which are made by animals. Mr. Pickering, it should be observed however, is no advocate for this very whimsical method. The sounds which the inferior animals make are, in the first place, asserted to be uniform in every age, and on this assumption the argument depends. Various sounds have been put in requisition in aid of this method, and not only those of animals, but various other sounds, as for example, those of whip-lashes and trumpets. Erasmus, in his celebrated dialogue, to which we have before referred, makes a serious argument\* for the correct enunciation of the Latin K by the frogs in their croaking ; for in every successive age of frogs, the ligatures of their tongues, we are assured, must remain unaltered. The letter S, it seems, is indebted

URSA. Nam his (ranis) hæc litera K peculiaris est, quum audimus illas quotidie modulantes illud suum βρεκεκεκέξ κοῶξ κοῶξ, in quo non percipitur illud crassius, et ad γ, sibilumque vergens, quod nunc audimus in vulgata Græcorum pronuntiatione. LEO. Certum est argumentum. *Nam ranæ non mutant cantionem suam tot jam seculis, quum homines nihil sinant esse diuturnum.* URSA Non absurde dicis, siquidem ranis lingua summa religata est, postrema quæ fauces spectat libera, ut aliter sonare non possint. *Haver. Syl. Dia. de Rec. L. Gr. et Lat. Pron. p. 125.*

to the snakes not only for the sibilation of its sound, but also for the sinuosities of its figure. We have derived, we are told too, our M from the lowing of oxen, our B from sheep, our O from asses, our R from quarrelling dogs, and our A from squalling babies. We put this means of approximation entirely out of the question, as ridiculously fanciful;—and only observe, that as these sounds want even the distinctness of those which are articulate, they cannot be any basis for a comparison, and if they were, the supposition that they have always remained unaltered is altogether gratuitous.

There is one other method by which it has been attempted to approximate to the spoken sounds of antiquity, and this is by an examination of cases of *Parechesis* in the ancient writers, or of those words whose orthography differs, but which are presumed or are known to be of similar sound when pronounced. An example of this is the word *bini*, which Cicero cites in one of his letters, as an equivocal word, identical in sound with βινι in Greek, which has caused great difficulty in the Erasmian controversy. We only remark upon this method, that it can merely determine the fact that different letters or combinations of letters had the same sound, but does nothing towards determining what that sound was. Certain letters or words sound like other letters or words, whose sound we do not know and cannot determine. Thus the whole force of the argument of the Erasmians, in the instance referred to, depends on the assumption (which appears from Pickering's memoir to have been unwarrantable) that the β of the Latins had the sound of the same letter in modern languages. As this method of approximation is much relied upon, we shall quote another instance derived from the memoir before us.

From the Herculean MSS. and from ancient inscriptions we know that ε had with the Greeks the sound of ι; Eustathius, in his commentary on Homer, gives as an example of the most perfect *parechesis*, the words ἸΠΙ and ἩΠΗ, hereafter cited; the letters ι and η are therefore identical in sound. We know then, that the diphthong ει sounded, when pronounced, like ι, and also that η sounded like ι. But what was the ancient sound of ι? Here we are referred to another source, and are told that it is incontestably like the English ee, that this is 'universally admitted by scholars,' that is, it rests upon authority or usage. But notwithstanding this general agree-

ment of scholars, the description of  $\eta$  by Dionysius of Halicarnassus differs from his description of  $\epsilon$ ; and in the Herculanæan MSS. the copyist mistakes  $\eta$  sometimes for  $\epsilon$ , which last letter, was pronounced, as scholars also universally admit, like our  $e$  in the word *there*. It is by the same process that  $\eta$ ,  $\nu$ ,  $\gamma$ ,  $\sigma$ ,  $\upsilon$ , are proved to have been sounded like  $\epsilon$ . It is \*admitted however, by the Reuchlinians, or advocates for modern Greek pronunciation, that there was a difference between the letters in the flourishing ages of Greece, but it is said, that the Greeks did not observe this distinction when they spoke carelessly, and it was not imitable by foreigners.

The same remark will apply to all arguments derived from Etymology; the transcription of the letters of one alphabet into those of another,—of the names of places and persons, and technical terms which cannot be translated,—as of Latin into Greek, and Greek into Latin, of the Greek into the Oriental, and the Oriental into the Greek languages; and to the mistakes of copyists. If we admit the justness of the comparison, the similarity is established; but the basis of the comparison, which is chiefly valuable to us, rests upon the general admission of scholars. But what is the value of this unanimity among scholars? That there may be no fallacy in the use of the phrase ‘universal or general admission,’ we observe, that it can only mean, that those scholars who have attended to this controversy, which as we have stated arose in the beginning of the sixteenth century, have not called the pronunciation of certain letters in question. So far as this is an argument of mere authority we are not disposed to give it any great weight. The means of approximating to the true pronunciation are greater now, as Mr. Pickering observes, than they were at any previous time, and scholars therefore of the present day are better qualified to judge, than at any former period since the question arose. The memoir before us is a proof of this, for after an examination of the principal controvertists, we hazard little in saying, that it is one of the fairest and most lucid statements that has been made of the subject. And though we allow that this universal admission is to be taken in its full force, it does nothing towards assuring us of the pronunciation of the Greek for fifteen centuries before—which is, in fact, the point to be determined.†

\* Vide Schmidt, §3, p. 634, *Hæver. Syl* before referred to.

† The following remark of Erasmus Schmidt, who was a staunch Reuch-

But there is another argument kindred to this last, which is, in our opinion, the only important one in favour of the Reuchlinian or Modern Greek pronunciation. We mean the general agreement of those nations on the continent of Europe, who more immediately derived their language from their southern neighbours, in the pronunciation of the five principal vowels, and some of the organic sounds, and which is also common to the Modern Greeks.\* This is true however only under certain conditions which we need not specify. It is not easy to assign any other cause for this agreement than a transmission of these letters unchanged from the same common source, for it is a mistaken idea that these vowel sounds are the only simple and elementary ones in spoken language.† It is not, we think, an inference altogether unauthorized, that the sounds of the five vowels and some of the consonants, as heard in the modern languages of the continent of Europe, are similar to those which were heard in Ancient Greece. But this is to be restricted to these vowels and organic sounds when pronounced singly, or to their simplest combinations; and we have therefore made but a small progress in ascertaining the pronunciation of antiquity. These sounds are

linian, and which he used against the Erasmians, we think may by a parity of reasoning be applied to the Reuchlinians of the present day.

“Dicat primum aliquis, quomodo Romani diphthongos *æ* et *œ* protulerint; et mox dicemus ei, quomodo, Græci *αι* et *οι*, quæ duæ illis duabus respondent, pronunciarent. Dicat aliquis, quomodo vel Romani *v* consonantem, vel Hebræi *ו* extulerint: et dicemus ei, quomodo *av*, *ev*, *zv*, item *ç* sit pronunciandum. Eodem enim modo, si Tonum excipias, pronunciatum fuit, *Οκταβία*, et *Octavia* item *וִיבִי* et *Δαβιδ*.” *Haver. Syl. tom. ii. p. 651.*

\* The French differ in the sound of their *u* from their continental neighbours, and we are not aware of any other difference in the vowel sounds.

† There are many more simple elementary sounds than is commonly imagined. Joshua Steele, “in an Essay towards establishing the Melody and Measure of Speech to be expressed and perpetuated by peculiar symbols, London 1775,” asserts “that there are in nature neither more nor less than seven vowel sounds, besides diphthongs, for which only five letters are used by Europeans.” Mr. Du Ponceau has shown that there are at least seven *vocal* sounds in the English, and that there are besides twenty one organic or consonant, and two aspirate—in the whole *twenty-nine pure elementary sounds*, and says, “that the sounds which the human voice can and does produce, among the various nations of the earth, are so various, and their shades and varieties so delicate and nice, that there is probably no man on earth who has ears to comprehend and vocal organs sufficiently flexible to articulate them all.”

modified by aspirations, by duration, by a nasal pronunciation, by union with each other, and especially by a complicated union with organic sounds or consonants. And all these variations must have been in an especial manner modified by the peculiar circumstances of the Greeks which we have before mentioned. It is no easy thing to determine the sounds of a living language, and orthoepists have only just begun to pursue the subject philosophically. And we confess that an attempt to approximate very nearly to the spoken language of a people who lived eighteen centuries ago, seems to us quite hopeless.

The letters chiefly in dispute between the Reuchlinians and Erasmians, according to Schmidt, who appears to be the fairest, most judicious and learned of the old controversy, are  $\beta$ ,  $\eta$ ,  $\sigma$ ,  $\nu$ , and all the diphthongs. The controversy with regard to all these, Mr. Pickering has fully and profoundly considered, and given the results in this excellent memoir, interspersed with very valuable original remarks. He has adverted also to the soft sound of  $\gamma$  before the vowels  $\epsilon$  and  $\iota$ , and also its sound of  $\eta$  when it precedes another  $\gamma$ ,  $\alpha$ ,  $\xi$ , or  $\chi$ . Mr. Pickering is the first to notice a peculiarity in the pronunciation of  $\lambda$  before  $\iota$ ,  $\nu$  and the diphthongs which sound like *ee*, by the Modern Greeks, when it has the liquid sound of the Italian *gl*; and has also noted another peculiarity in the pronunciation of  $\nu$  before  $\iota$ ,  $\nu$ ,  $\epsilon\iota$ , when it has the sound of *gn*, as in *bagnio*, which has not hitherto been observed.\* We mention these last facts as an example of Mr. Pickering's critically nice discernment of sounds, and of the accuracy which is conspicuous in every part of the memoir.

This investigation has been made by Mr. Pickering with the results of this long controversy before him, and the fairness of the inquiry may be inferred from the circumstance, that 'it led to a strong conviction in his own mind very different from the opinion he once entertained of it.' He has also with great judgment availed himself of the labours of modern scholars. Among these the Herculean MSS. are of the first importance. Some idea of his laborious and eru-

\* Neither of these distinctions are preserved in the Neugriechische Sprachlehre of Schmidt, Leip. 1808. But as they have only been derived from the utterance of two persons, they can hardly be adopted without further inquiry. It is possible, at least, that it may be a provincial pronunciation.

dite research may be gained from his account of the letter  $\eta$  which we quote entire. It embraces several of the different methods of approximation, which we have attempted to examine.

‘ It has been the fate of this letter, as writers have remarked, to be the subject of as much controversy as any in the whole alphabet. *Erasmus* and his followers contended, that the *ancients* pronounced it like what they called long *E* in Latin; by which they meant a sound like *a* in our word *fate*. The *Modern Greeks* pronounce it like our *ee*; which is the sound given to it by the English, and which we have always been accustomed to give it. As far as respects ourselves, therefore, we have no dispute with the *Modern Greeks* about this letter. But the writers on the continent of Europe have generally considered that pronunciation as erroneous; it will, therefore, be necessary, to notice briefly the grounds, upon which the two modes are defended.

‘ That this letter at one period had a sound differing in some respects from that which it now has in Greece, must be inferred from the description given of it by *Dionysius of Halicarnassus*, which is different from his description of the sound of *Iota*; and this latter indisputably had the sound of long *e* (or *ee*) in our language. In the *Herculean* manuscripts too, the  $\eta$  is sometimes used by the copyist, through mistake, instead of *Epsilon*. But there is also a great mass of evidence tending to show, that about the commencement of the Christian era or not long afterwards, the  $\eta$  and  $\iota$  were both pronounced alike; and, if we can ascertain the pronunciation of the language as far back as that period, it will be sufficiently near the classic ages of Greece, to satisfy the most fastidious ear of *foreigners*, as we are in respect to the language. The arguments on both sides of the question respecting the  $\eta$ , are very minutely stated (from various authors but not without remarks of his own) by *Velastus*, a Greek monk of the island of *Chios*, in the *Dissertation* to which I have before referred, and in which upwards of thirty quarto pages are devoted to this letter alone.\* I shall here only give a very general view of the reasoning on the subject; and, in doing this, it will be necessary for the present to assume as true, that the diphthong  $\epsilon\iota$  had the same sound with the  $\iota$ ; which, by the aid of the *Herculean Manuscripts*, in addition to the ancient monuments heretofore discovered, may now be proved beyond a doubt to have been the case.

‘ In prosecuting this inquiry, we are enabled to go back at once

\* Thomæ Stanislai Velasti, societatis Jesu, *Dissertatio de Literarum Græcarum Pronunciatione*, Romæ, 1751.



to the twelfth century by means of the writings of the learned and venerable *Eustathius*; and he, it should be recollected, expressly informs his readers, that his *Commentary on Homer* consists chiefly of *selections from the works of others*, whom even in that age he styles “*the ancients*.” Among those writers, (upwards of three hundred and fifty in number, according to the catalogue in *Fabricius*.) we do, indeed, find the names of philosophers and critics and grammarians from the very earliest periods of Grecian literature. Now *Eustathius*, in the course of his *Commentary*, gives several instances of what he calls *παρήχησις*, or words, which are alike in sound but different in *signification*; and as examples he gives these lines of *Homer*, among others, relating to the letter η :

‘Τὸν καὶ ὑπερδδΕΙσαν μάκαρες θεοὶ οὐδέ τ’ ἔδΗταν.

*Iliad. A. 406.*

————— χόλος δὲ μιν ἄγριος ἝΠΕΙ.

ἝΗΡΗ δ’ οὐκ ἔχαδε στήθος χόλον.

*Iliad. Δ. 23, 24.*

ἝΙΠΙ θεῶ, τίς γὰρ σε θεῶν ἐμοὶ ἄγγελον ἦκε;

ἝΗΡΗ με προέηκε.

*Iliad. Σ. 182, 184.*

Upon which last example he particularly remarks, that the Poet has here placed two words near each other, which form the most perfect kind of *parechesis*; which is, when the words are exactly similar in sound, but dissimilar in *signification and orthography*—  
Ἕγγυς ἀλλήλων τίθησι, κατὰ τοιαύτην παρήχησιν, παντελῶς μὲν ἠχούσαν ταυτὸν, ἀνομοίωτα δὲ ἔχουσιν κατὰ τὴν ἔννοιαν, καὶ κατὰ τὴν γραφάν.†

‘In another instance (*Iliad. O. 143*, cited by *Velastus*) he uses even more emphatic language; for after citing these lines,

ἝΗρη δ’ Απόλλωνα καλέσσατο δώματος ἐκτός

ἝΙρην θ’ ἣ τε θεοῖσι μετάγγελος ἀθανάτοισι,

he remarks, that the poet describes *Iris* paraphrastically, as the messenger of the gods, lest the perfect similarity of sound in Ἕρη and Ἕρς should mislead one, and *Juno* should be supposed to have been called for by *Juno* herself.

‘But it is needless to multiply examples of this kind; and I shall merely refer to the two lists of words at the end of *Scapula’s* and some other Lexicons; one of which (by *John Philoponus*, as *Henry Stephens* affirms) will carry us back to the seventh century, and the other, by *Ammonius*, to the fourth century; from which last work, we may proceed still farther back, by means of

\* *Fabric. Bib. Græc. tom. i. p. 306.*

† *Eustath. p. 240. edit. Florent. 1730.*

a writer there cited, by the name of *Didymus*; who thinks it necessary to point out the difference in *signification* between the two words *λειτουργεῖν* and *λειτουργεῖν*; which, if they had been so unlike *in sound*, as the Erasmian pronunciation of *η* would make them, would not have been classed with the words in this Collection.

‘The argument founded on *translations* of Roman names into Greek is also applied in the case of the *η*, as well as of the other letters; and it is observed, that *Dionysius of Halicarnassus*, and other Greek writers, rendered the Roman *i* by the *η* of their own language. But on the other hand, the *Roman* writers frequently rendered the Greek *η* by their own *e*. Again, it may be replied, that (as *Gellius* observes) the ancient Romans used *e* and *i* indifferently; and Quintilian informs us of the same fact; and, by way of example, he remarks, that the ear cannot plainly distinguish whether the Latin word *Here* has the sound of *I* or of *E*; and that in the works of many authors he found *sibe* and *quase* for *sibi* and *quasi*.\*

‘But the strongest argument from *translations* is derived from the *Oriental Languages*, because of their antiquity and permanency. *Velasius* alludes to this, but contents himself with referring the reader to *Wetstein’s Dissertation*. It is, however, urged with much force against the Erasmians, by *Martin* and by *Schmidt*. The former, in his reply to *Metkerke*, (who had incautiously adduced it as being favourable to his own cause,) thus presses his adversary: “What shall I say on this point, *Metkerke*; or rather what shall I not say? In truth, when you appeal to the *Hebrews*, you betray your utter ignorance—*Hebræos prorsus non intelligis*—nor, as it appears, have you ever read a passage in their language. For what in the Greek is rendered by *η*, is in the Hebrew *i* long, [that is *ee*] and therefore in *Greek* it must be pronounced in the same manner.” *Martin* then examines the Hebrew words referred to by *Metkerke*. *Schmidt* remarks, that in a multitude of Greek words which are retained in the *Syriac Version* of the New Testament, the Greek *η* is *always* rendered by *Hirik* and *never* by .. or by :— thus,

כאפא from *κηφα*, Matt. xvi. 18.

פֶּרְקִלְיָא from *παράκλητος* John xiv. 16.

רִיתִיקָא from *διαθήκη*, Matt. xxvi. 28, Luke i. 72.

קורנִילִיוֹס from *κορνήλιος*, Acts x. 1.

פֶּנְטִיקוֹסְטָא from *πεντηκοστή*, Acts ii. 1.

זֶאֱטִמָא from *ζήτημα*, Acts xviii. 15.

\* Quintil. Instit. lib. 1. capp. 4 and 7.

with some other examples, which it is needless to particularize in this place.

‘It is only necessary to notice one other argument in this case; which is the syllable  $B\eta$  used by *Cratinus* (as before observed) to express the cry of a sheep. In addition to the remarks made under the letter *Beta*, I need only observe, (as *Velastus* does, after *Fabricius*.) that there were two writers of the name of *Cratinus*, both of whom lived long before the time of Plato, Thucydides and Pericles; a period, to which no one will attempt to trace the pronunciation of the Greek language, and at which time the letter  $\eta$  might possibly have had the full sound of our long *a* throughout all Greece. But it is worthy of remark, that the word  $B\eta$  is spoken of by *Suidas* and the author of the *Etymologicon Magnum* as an *Attic* word—BH, το μιμητικὸν τῆς τῶν προβάτων φωνῆς, οὐχὶ BAI, λέγεται Ἀττικῶς;\* an expression, from which we must infer, that the word in question was peculiar to the people of Attica; and that the people of other parts of Greece would have used another word, to express the same sound.’ pp. 269—274.

The following important statements and remarks conclude the memoir.

‘In addition to these particular observations on the letters, I cannot but call the attention of the members of the Academy to a few facts, which well deserve the consideration of scholars. Of these, a very important one is the *universality* of the pronunciation of the Modern Greeks; which is found to be substantially the same in the islands and other parts of Greece, quite remote from each other and having little or no connexion by means of commerce or otherwise. Another remarkable circumstance is, the use of *ancient Greek* in their Church-service; which has been continued from the first propagation of Christianity to the present day. Now the just pronunciation of the language of their Church-service has ever been scrupulously attended to; and the present mode has been handed down with extreme care from the earliest periods. The *nation* itself, also, remains to this time a distinct race of people; and it should be recollected, that the oppression of their Turkish conquerors has only served to keep them the more imbodied, and the less liable to the effects of a necessary intercourse with each other.

‘How cautious then ought we, as foreigners, to be in condemning the invariable usages of a people thus circumstanced, in such a question as the pronunciation of their language. We perceive that the most eminent scholars have entertained opinions respecting it, which later discoveries have proved to be unfounded. At

\* *Etymol. mag.* p. 196. edit. *Sylburg*.

one period, for example, it was contended by the learned of Europe, that the  $\gamma$  before  $\gamma$ ,  $\kappa$ , &c. was not to be pronounced like  $\gamma$ ; that  $\epsilon$  was not to be sounded like simple  $\epsilon$ , &c. as the Modern Greeks pronounce them. These opinions now appear to have been erroneous, and the usage of the *Modern*, is found to be conformable to that of the *ancient* Greeks. The learned also once thought, that the ancient Greeks used only *capital* letters, and that the *small letters*, now used, were the invention of the lower ages; but an inscription found in Herculaneum in these very characters has obliged them to abandon that opinion. They believed too, and with much ingenuity had almost proved, that the Greek *Accents* were of comparatively modern origin; but here again, unfortunately, the same Herculanean Inscription confuted their theories. In almost every instance, in short, where the opinions of the learned have been at variance with the usage of the *Modern Greeks*, whenever any evidence has been discovered relating to the point in controversy, the theories of the former have proved to be unfounded, and the usage of the latter confirmed' pp. 290, 291.

On this we would observe, that with regard to the 'universality' of a pronunciation substantially the same among the modern Greeks, travellers widely differ. "At present," says the Edinburgh Review, vol. xvi. p. 58, on the authority of M. De Guys, "there are three languages in use among the Greeks. 1. The ancient or classical Greek in which divine service is performed, which is understood and spoken with facility by all the educated class. Ancient Greek is to them what Latin is to Western scholars. 2. The second is called the Ecclesiastical; so called, because it is used in the sermons and letters of the patriarchs; it is less pure than the ancient, but far less corrupt than the vulgar Greek. 3. The third and last is the Vulgar or Romaic Greek—a motley assemblage of Greek, Latin, Turkish, French and Italian words." In the notes to the second canto of Childe Harold, Lord Byron speaks of the different degrees of purity with which the Greek is spoken at Yanina, in the Fanal and in Athens. "The Albanians speak a Romaic as notoriously corrupt as the Scotch in Aberdeenshire, or the Italians of Naples. Yanina (where next to the Fanal, the Greek is purest) although the capital of Ali Pacha's dominions, is not in Albania but Epirus; and beyond Delvinachi in Albania proper, up to Angyrocastro and Tepaleen (beyond which I did not advance) they speak worse Greek than even the Athenians."

With regard to the purity of the Greek used in the church service, we would remark, that though there be historical evidence of the care which has ever been taken of its pronunciation, it must yet have been liable to that change, which, for the reasons we have before stated, we believe must necessarily affect all spoken sounds. We know too from Brerewood, whom we have quoted, that it was not understood in the beginning of the 17th century by the common people. And it may not be irrelative to observe, that though the Latin of the Romish church is now not impure, yet in the 7th century, it was a jargon which was made up of Latin words in a state of *transition* into Italian. Such as the following, “Redemptor mundi, tu lo adjuva.” In the Dissertation affixed to the Classical Tour of Eustace, from which this has been derived, and who quotes from *Lanzi*, there are many other very curious specimens of the gradual corruption of the Latin from the time of the Emperors until the 13th and 14th centuries ; when the Italian became a distinct language, under the culture of Dante, Boccacio, and Petrarca ; and the Latin was restored to its former grammatical correctness.

Mr. Pickering gives us reason to hope, that in a future paper he will consider the subject of the Greek accents. We are as glad that this very perplexed, intricate and interminable subject is in such able hands, as that it is not our present duty to remark upon it. We hope he will be able to settle the long disputed point of the antiquity of the accents, whether they are all as old as Plato and Aristotle, as Bishop Horsey contended ; or only a part of them, the spirits and marks of quantity, as others have thought ;—or whether the invention of accents, distinctions, sub-distinctions, spirits and marks of quantity is to be attributed to Aristophanes of Byzantium, who flourished about the 145th Olympiad, as was the opinion of I. Vossius, Salmasius and others. If they existed in ancient times, he will, we hope reconcile the use of their accentual marks with the metrical poetry of the ancients, and explain how the *στίχοι πολιτικοί* of *John Tzetzes*, and the *σύνοψις ἱστορικὴ* of *Constantine Manasses* which are written with an uniform accentual cadence, is reconcileable with the ancient metrical quantity of the words ; and finally, in what manner the Greeks of the present day, in their poetical composition, should have entirely disused the metre of their ancestors, and taken to *rhyme*.

The liberal and enlightened scholar, whose memoir has

given occasion to this Article, will perceive that our remarks have not been confined to the particular arguments relating to the pronunciation of individual letters, but to those general principles and means of approximation, which have been adopted and proceeded upon equally by the Reuchlinians and Erasmians. We have incidentally spoken in the course of our remarks, of the candour, patience, accuracy, and learned research, which every where characterize his memoir ;— and we wish the tribute were more worthy of his disinterested zeal in pursuit of all good learning. And while he observes that we have not the same confidence to which he has attained in the approximation which has been made, or can be made to the pronunciation of the ancient Greeks, he will not be unwilling that a view of the controversy should be taken, somewhat different from his own, as just opinions on this, and on every other subject, must result from the free inquiries of different minds.

But while we have little confidence in any approximation which can be made at the present day to the pronunciation of antiquity,—the agreement of the controvertists in the sound of many letters, affords much reason to believe that a pronunciation of the Greek may be adopted, which will be convenient for general use. The memoir of Mr. Pickering is, in this point of view, eminently valuable.\* Scholars will judge whether the advantages resulting from an uniform pronunciation are worth the difficulties which must necessarily attend its adoption. Our own opinion on the question of expediency will be indicated by a quotation from the Reuchlinian Schmidt, with the single remark, that what he applied to the Erasmians of his day, may, we think, be applied with peculiar force to the Reuchlinians of ours. “*Meminisse debebant illi ; ut Verba ; ita et Pronunciationem usu valere ; non secus ac*

\* The subject of this article has recently excited much attention abroad.—1. In the *Journal des Savans*, for Nov. 1816, p. 192, the following work is mentioned. “*Collectanea Literaria, sive conjecturæ in Attium Diomedem, Lucilium, Lydum, Nonnium, Ovidium, Plautum, &c. quibus accedit, Disputatio de lingua Græcæ pronunciatione ; auctore C. J. Reuss.*—2. Another Dissertation on the subject is to be found in *Reuven's Collectanea Literaria*, published in Holland about the year 1815.—3. In the *Ἑρμῆς ὁ Λόγιος*, the Greek Journal published at Vienna, there are several articles on the subject of the Reuchlinian Pronunciation ; some of them are translated from German writers, (the only one now recollected is by Neidlinger) but accompanied with original remarks of the Greek editors.

Nummi valent : Et multa danda esse tempori et consuetudini. Sicut enim non necesse est, illa moneta hodie uti, qua olim majores nostrī usi sunt, quæque usu hodie exolevit ; imo sicut moneta antiqua hodie interdum est sine usu, et pro *καίμηλίφ* potius ac monimento antiquitatis reponitur, quam pro usu erogatur : Ita etiam non necesse est, vel Verbis antiquis quæ usus abolevit, vel Pronunciatione antiqua jam abolita denuo uti velle, imo ea quæ exoleverunt, non tam sunt hodie superstitiose et ambitiose usurpanda, quam cum judicio notanda et observanda ; usumque Vulgo concedere, scientiam nobis reservare debemus, ut ait Cicero. Quin potius *Moribus antiquis : presentibus utere verbis.*



ART. VIII.—*The Elements of Chemical Science.* By John Gorham, M. D. Member of the American Academy, and Professor of Chemistry in Harvard University, Cambridge. *Homo nature minister et interpres.*—Bacon. Vol. I. pp. 556. Boston, Cummings & Hilliard, 1819.

THE rapid improvements which have been made in the science of chemistry during the present century, have rendered it almost impossible for any to keep pace with it in its discoveries and revolutions, except those who have made it a particular object of attention. Never before, probably, have the exertions of so many individuals of the highest capacities and most persevering industry been at once concentrated upon a single subject ; or the zeal and ardour of the philosopher been so entirely seconded by liberality and patronage. Chemistry has been the most popular science of the age. The novelty and splendour of some of its discoveries, the almost magical effect produced by some of its operations, and the readiness with which it explains so many of the ordinary phenomena of nature, have served to attract and charm minds but little disposed to relish its deeper investigations. This was particularly the case, whilst the theory of Lavoisier continued to be received in the chemical world. Its beauty and simplicity, the facility with which it was explained and understood, and its almost perfect applicability in accounting for the operations of nature, recommended it to the attention of general observers, as well as the philosophical inquirer. But the revolutions which in the course of a few years have been effected with